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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/617,146

07/10/2003

Anca Faur-Ghenciu

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EXAMINER

HANDAL, KAITLY V

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

06/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/617,146	Applicant(s) FAUR-GHENCIU ET AL.	
	Examiner KAITY V. HANDAL	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nunan (US 6,040,265).

With respect to claims 1-2, 4, 12-13, 15-16, 24-25, 27-29, 36-37, 42, 44-45, 50-51, 53-55, 59-60, Nunan teaches an apparatus for reducing an amount of carbon monoxide in process gas wherein the catalyst is a ceria based catalyst which promotes water gas shift reactions (col. 1, lines 43-56), the catalyst system comprising a noble metal/(Pt or Pd) (col. 10, line 65); a mixed metal oxide support consisting essentially of cerium oxide and zirconium oxide, wherein cerium oxide is present in an amount from about 45% to about 90% by weight of mixed metal oxide and zirconium/lanthanum oxide is present in amount from about 10% to 55% by weight of mixed metal oxide (col. 10, lines 64 col. 11, lines 1-5), and a promoter comprising Yttrium (col. 11, line 7) in order to enhance the Ce or Zr promotional effect on catalyst performance in CO and NO_x oxidation (col. 20, lines 45-50). Nunan does teach that his catalyst is for reducing an amount of carbon monoxide in process gas wherein the catalyst is a ceria based catalyst which promotes water gas

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shift reactions (col. 1, lines 43-56). Therefore, it would be obvious to one having ordinary skill in the art to try placing Nunan's catalyst system in a "water gas shift reactor" and pass there through a process gas stream as opposed to an exhaust stream for the purpose of achieving an entirely expected result – which is reducing carbon monoxide. Thereby, one skilled in the art would merely place a catalyst system known to achieve an expected result in a specific known reactor/reaction conditions in a effort to try achieving the expected results taught in the prior art of Nunan. Nunan's disclosure obviates to one of ordinary skill in the art to try using his catalyst system to achieve the expected result of reducing carbon monoxide in a gas stream. See KSR - Example D. Furthermore, Nunan's catalyst is the same as that instantly claimed and therefore will perform as such.

With respect to claims 3, 14, 26, 38, 46, 56, Nunan further teaches wherein the noble metal/(group VIII) is present in an amount of between about 0.01% to about 4% by weight of total catalyst (col. 13, lines 40-43).

With respect to claims 5, 17, 30, 43, 52, 61, Nunan further teaches wherein the promoter is present in an amount of between 1% and about 20% by weight of total catalyst (col. 14, lines 23-25).

With respect to claims 6-7, 18-19, 31, 39-40, 47-48, 57, Nunan further teaches wherein the mixed metal oxide support further comprises a support dopant/(additional promoter) selected from lanthanum (col. 14, lines 8-15).

With respect to claims 8, 20, 32, Nunan further teaches wherein the support dopant/(additional promoter) is in the form of a metal oxide (col. 14, lines 8-21).

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With respect to claims 9, 21, 33, 41, 49, 58, Nunan further teaches wherein the support dopant/(additional promoter) is present in an amount of between about 1% and about 20% by weight of mixed metal oxide (col. 14, lines 8-25).

With respect to claim 10-11, 22-23, 34-35, Nunan further teaches wherein the process fuel gas passes through the water gas shift at a temperature of about 225°C (col. 15, lines 53-57).

The options in Nunan as to the various catalyst/promoter/dopant material groups are deemed obvious to one having skill in the art to choose from these options.

Response to Arguments

3. Prior Art

Applicant argues that Nunan does not teach or suggest that his catalyst can be placed in a water gas shift converter. Examiner respectfully disagrees and points out that Nunan does teach an apparatus for reducing an amount of carbon monoxide in process gas wherein the catalyst is a ceria based catalyst which promotes water gas shift reactions (col. 1, lines 43-56). Therefore, it would be obvious to one having ordinary skill in the art to try placing Nunan's catalyst system in a "water gas shift reactor" and pass there through a process gas stream as opposed to an exhaust stream for the purpose of achieving an entirely expected result – which is reducing carbon monoxide. Thereby, one skilled in the art would merely place a catalyst system known to achieve an expected result in a specific known reactor/reaction conditions in a effort

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to try achieving the expected results taught in the prior art of Nunan. Nunan's disclosure obviates to one of ordinary skill in the art to try using his catalyst system to achieve the expected result of reducing carbon monoxide in a gas stream. See KSR - Example D.

Applicant argues that claims 1-61 are not anticipated by, nor would have they been obvious to one of ordinary skill in the art at the time of the invention over Nunan. Examiner respectfully agrees with applicant regarding the anticipatory part of the previous rejection, and as set forth above, the anticipatory part of the previous rejection has been removed while the obviousness part of the rejection has been maintained.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAITY V. HANDAL whose telephone number is (571)272-8520. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. V. H./
Examiner, Art Unit 1795

6/5/2009

/Alexa D. Neckel/
Supervisory Patent Examiner, Art Unit 1795